

Claims

1. An apparatus for removing body fluids from a body cavity (T) by suction,
5 comprising
catheter means having a drainage lumen (3) and an auxiliary lumen (5) adapted
for placement adjacent a wound in the body cavity (T) to be drained of body
fluid, the drainage lumen (3) having a proximal end being in fluid communica-
tion with a proximal end of the auxiliary lumen (5);
10 a suction drainage collection means (2) for connection in fluid communication
with the drainage lumen (3) and for receiving body drainage fluid from the
body cavity (T);
a source of suction (1) for effecting negative pressure in the drainage lumen (3)
and
15 means (7) for opening the auxiliary lumen (5) in order to supply air or gas to
the body cavity (T)
characterized in that
means (9) are provided to increase the pressure difference between a pressure
in the drainage lumen (3) and a pressure in the atmosphere when the auxiliary
20 lumen (5) is open.
2. The apparatus of claim 1 wherein the source of suction is a suction pump (1)
and the means for increasing the pressure difference is a controller (9) of the
suction pump (1) which can increase the suction power of the suction pump
25 (1).
3. The apparatus of one of claim 1 or 2, further comprising a first pressure sensor
(6) measuring the ~~pressure in the auxiliary~~ lumen (5) and being in communica-
tion with the means (9) for increasing the pressure difference.
- 30 4. The apparatus of one of claim 1 to 3 wherein the means (9) for increasing the
pressure difference is in communication with the means (7) for opening the

auxiliary lumen (5).

- 5 5. The apparatus of one of claim 1 to 3 wherein the pressure difference can be increased to achieve a negative pressure level in the drainage lumen (3) being at least half of the negative pressure level during drainage.
- 10 6. The apparatus of one of claims 1 to 5 further comprising a means (8) for measuring the pressure in at least one of the group of the suction drainage collection means (2) and the drainage lumen (3).
7. The apparatus of claim 6 wherein this means is a second pressure sensor (8).
8. The apparatus of one of claim 7, wherein the means (9) for increasing the pressure difference are in communication with the second pressure sensor (8).
- 15 9. The apparatus of one of claims 1 to 8 wherein the means (9) for increasing the pressure difference is increasing the pressure continuously.
10. The apparatus of one of claims 1 to 9, wherein the means (9) for increasing the pressure difference is increasing the pressure abruptly.
- 20 11. A method for operating an apparatus for removing body fluids from a body cavity (T) by suction, the apparatus comprising
- 25 catheter means having a drainage lumen (3) and an auxiliary lumen (5) adapted for placement adjacent a wound in the body cavity (T) to be drained of body fluid, the drainage lumen (3) having a proximal end being in fluid communication with a proximal end of the auxiliary lumen (5);
- a suction drainage collection means (2) for connection in fluid communication with the drainage lumen (3) and for receiving body drainage fluid from the
- 30 body cavity (T);
- a source of suction (1) for effecting negative pressure in the drainage lumen (3) and

means (7) for opening the auxiliary lumen (5) in order to supply air or gas to the body cavity (T)
the method comprising the steps of
opening the auxiliary lumen (5) and
5 increasing the pressure difference between a pressure in the drainage lumen (3) and a pressure in the atmosphere.

12. The method of claim 11 wherein the pressure difference is increased by increasing the power of the source of suction (1).

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13. The method of one of claims 11 or 12 wherein the pressure in the auxiliary lumen (5) is measured and the pressure difference is increased only when the pressure corresponds at least to atmospheric pressure.

15 14. The method of one of claims 11 to 13 wherein the auxiliary lumen (5) is opened by opening a first valve (7).

15. The method of claims 12, 13 and 14 wherein the source of suction (1) is control by a controller (9) and wherein this controller (9) is in communication with at least one of the group of the valve (7) and a first pressure sensor (6) measuring the pressure in the auxiliary lumen (5).

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16. A method for removing body fluids from a body cavity (T) by suction, the method comprising the steps of
25 providing a catheter means having a drainage lumen (3) and an auxiliary lumen (5) adapted for placement adjacent a wound in the body cavity (T) to be drained of body fluid, the drainage lumen (3) having a proximal end being in fluid communication with a proximal end of the auxiliary lumen (5);
providing a suction drainage collection means (2) for connection in fluid communication with the drainage lumen (3) and for receiving body drainage fluid
30 from the body cavity (T);
providing a source of suction (1) for effecting negative pressure in the drainage

- lumen (3) and
providing a means (7) for opening the auxiliary lumen (5) in order to supply air
or gas to the body cavity (T)
the method further comprising the steps of
- 5 opening the auxiliary lumen (5) and
increasing the pressure difference between a pressure in the drainage lumen (3)
and a pressure in the atmosphere.